

US EPA ARCHIVE DOCUMENT

ANALYTICAL RESULTS

Prepared for:

Chevron
5000 State Route 128
HOOVEN OH 45033

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

December 17, 2009

Project: Hooven Lysimeter Sampling

Samples arrived at the laboratory on Thursday, December 10, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1174579.

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
L-20S,120909 Grab Water Sample	5860147
L-20S,120909 Filtered Grab Water Sample	5860148
L-18S,120909 Grab Water Sample	5860149
L-18S,120909 Filtered Grab Water Sample	5860150
L-21S,120909 Grab Water Sample	5860151
L-21S,120909 Filtered Grab Water Sample	5860152
L-93S,120909 Grab Water Sample	5860153
L-93S,120909 Filtered Grab Water Sample	5860154
Trip Blank Water Sample	5860155

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Trihydro Corporation
COPY TO
ELECTRONIC Trihydro Corporation
COPY TO
ELECTRONIC Trihydro Corporation
COPY TO

Attn: Trihydro Database

Attn: Tim Gunn

Attn: Matthew Mitchell

Questions? Contact your Client Services Representative
Katherine A Klinefelter at (717) 656-2300

Respectfully Submitted,



Max E. Snavelly
Senior Specialist



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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Sample Description: L-20S,120909 Grab Water Sample
Lysimeter Sampling

LLI Sample # WW 5860147
LLI Group # 1174579
OH

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 11:30 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

HOOVEN OH 45033

L-20S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Miscellaneous		SW-846 8015B modified	ug/l	ug/l	
07105	Methane	74-82-8	N.D.	10	1
Due to interfering peaks on the chromatogram, the values reported represent the lowest reporting limits attainable.					
Metals		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	1.00	0.0522	1
07058	Manganese	7439-96-5	0.0978	0.00084	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	10.7	0.25	5
00228	Sulfate	14808-79-8	169	6.0	20

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093450000A	12/15/2009 15:42	Dustin A Underkoffler	1
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:10	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:10	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1
00368	Nitrate Nitrogen	EPA 300.0	1	09344196603B	12/10/2009 20:23	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	09344196603B	12/13/2009 21:38	Ashley M Adams	20

Sample Description: L-20S,120909 Filtered Grab Water Sample
Lysimeter Sampling

LLI Sample # WW 5860148
LLI Group # 1174579
OH

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 11:30 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

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Discard: 02/16/2010

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.0089	0.00084	1

General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:13	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:13	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1



Analysis Report

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Sample Description: L-18S,120909 Grab Water Sample
Lysimeter Sampling

LLI Sample # WW 5860149
LLI Group # 1174579
OH

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 10:40 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

HOOVEN OH 45033

L-18S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Miscellaneous		SW-846 8015B modified	ug/l	ug/l	
07105	Methane	74-82-8	1,400	100	20
Metals		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	1.36	0.0522	1
07058	Manganese	7439-96-5	0.257	0.00084	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	N.D.	1.5	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093450000A	12/16/2009 08:30	Dustin A Underkoffler	20
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:17	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:17	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1
00368	Nitrate Nitrogen	EPA 300.0	1	09344196603B	12/10/2009 20:39	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	09344196603B	12/10/2009 20:39	Ashley M Adams	5

Sample Description: L-18S,120909 Filtered Grab Water Sample
Lysimeter Sampling

LLI Sample # WW 5860150
LLI Group # 1174579
OH

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 10:40 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.260	0.00084	1

General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:20	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:20	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1



Analysis Report

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Sample Description: L-21S,120909 Grab Water Sample
Lysimeter Sampling

LLI Sample # WW 5860151
LLI Group # 1174579
OH

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 09:40 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

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Discard: 02/16/2010

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L-21S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Miscellaneous		SW-846 8015B modified	ug/l	ug/l	
07105	Methane	74-82-8	340	10	1
Metals		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	0.410	0.0522	1
07058	Manganese	7439-96-5	0.155	0.00084	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	N.D.	1.5	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093450000A	12/15/2009 16:07	Dustin A Underkoffler	1
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:23	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:23	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1
00368	Nitrate Nitrogen	EPA 300.0	1	09344196603B	12/10/2009 20:54	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	09344196603B	12/10/2009 20:54	Ashley M Adams	5

**Sample Description: L-21S,120909 Filtered Grab Water Sample
Lysimeter Sampling**

**LLI Sample # WW 5860152
LLI Group # 1174579
OH**

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 09:40 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

HOOVEN OH 45033

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.157	0.00084	1

General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:26	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:26	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1



Analysis Report

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Sample Description: L-93S,120909 Grab Water Sample
Lysimeter Sampling

LLI Sample # WW 5860153
LLI Group # 1174579
OH

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 12:30 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

HOOVEN OH 45033

L-93S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Miscellaneous		SW-846 8015B modified	ug/l	ug/l	
07105	Methane	74-82-8	N.D.	10	1
Due to interfering peaks on the chromatogram, the values reported represent the lowest reporting limits attainable.					
Metals		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.0034 J	0.00084	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.3	0.25	5
00228	Sulfate	14808-79-8	155	6.0	20

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093450000A	12/15/2009 16:20	Dustin A Underkoffler	1
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:30	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:30	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1
00368	Nitrate Nitrogen	EPA 300.0	1	09344196603B	12/10/2009 21:09	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	09344196603B	12/13/2009 21:54	Ashley M Adams	20

**Sample Description: L-93S,120909 Filtered Grab Water Sample
Lysimeter Sampling**

**LLI Sample # WW 5860154
LLI Group # 1174579
OH**

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009 12:30 by MM

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

HOOVEN OH 45033

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	
01754	Iron	7439-89-6	N.D.	0.0522	1
07058	Manganese	7439-96-5	0.0035 J	0.00084	1

General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	093491848003	12/16/2009 21:33	John P Hook	1
07058	Manganese	SW-846 6010B	1	093491848003	12/16/2009 21:33	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	093491848003	12/16/2009 03:00	Mirit S Shenouda	1

**Sample Description: Trip Blank Water Sample
Lysimeter Sampling**

**LLI Sample # WW 5860155
LLI Group # 1174579
OH**

Project Name: Hooven Lysimeter Sampling

Collected: 12/09/2009

Account Number: 11494

Submitted: 12/10/2009 09:35

Chevron

Reported: 12/17/2009 at 10:24

5000 State Route 128

Discard: 02/16/2010

HOOVEN OH 45033

L93ST

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Miscellaneous	SW-846 8015B modified	ug/l	ug/l		
07105	Methane	74-82-8	N.D.	10	1
Due to interfering peaks on the chromatogram, the values reported represent the lowest reporting limits attainable.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	093450000A	12/15/2009 16:32	Dustin A Underkoffler	1

Quality Control Summary

Client Name: Chevron

Group Number: 1174579

Reported: 12/17/09 at 10:24 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 093450000A	Sample number(s): 5860147, 5860149, 5860151, 5860153, 5860155							
Methane	N.D.	10.	ug/l	88		80-120		
Batch number: 093491848003	Sample number(s): 5860147-5860154							
Iron	N.D.	0.0522	mg/l	107		90-112		
Manganese	N.D.	0.00084	mg/l	105		90-110		
Batch number: 09344196603B	Sample number(s): 5860147, 5860149, 5860151, 5860153							
Nitrate Nitrogen	N.D.	0.050	mg/l	102		90-110		
Sulfate	N.D.	0.30	mg/l	97		89-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 093450000A	Sample number(s): 5860147, 5860149, 5860151, 5860153, 5860155 UNSPK: P858877								
Methane	68	82	35-157	18	20				
Batch number: 093491848003	Sample number(s): 5860147-5860154 UNSPK: P860080 BKG: P860080								
Iron	105	110	75-125	1	20	2.65	2.64	0	20
Manganese	105	105	75-125	0	20	0.266	0.265	0	20
Batch number: 09344196603B	Sample number(s): 5860147, 5860149, 5860151, 5860153 UNSPK: P860076 BKG: P860076								
Nitrate Nitrogen	105		90-110			N.D.	N.D.	0 (1)	20
Sulfate	138*		90-110			2.8 J	2.8 J	2 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Volatile Headspace Hydrocarbon

Batch number: 093450000A

Propene

5860147	49
5860149	93
5860151	46

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron

Group Number: 1174579

Reported: 12/17/09 at 10:24 AM

Surrogate Quality Control

5860153	55
5860155	62
Blank	102
LCS	98
MS	61
MSD	78

Limits:	42-131
---------	--------

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 11494 Group# 1174579 Sample # 5860147-55

COC # 225031

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: <u>Cherion Cincinnati</u> Acct. #: <u>11494</u> Project Name/#: <u>2nd Semi Annual 09655</u> PWSID #: _____ Project Manager: <u>Doug Lan</u> P.O.#: <u>500-017-012</u> Sampler: <u>Matt Mitchell</u> Quote #: _____ Name of state where samples were collected: <u>Ohio</u>				4 Matrix <input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Other <input type="checkbox"/> Grab <input type="checkbox"/> Composite		5 Analyses Requested Preservation Codes				For Lab Use Only FSC: _____ SCR#: <u>84428</u>						
						Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other				6 Temperature of samples upon receipt (if requested)						
Sample Identification			Date Collected	Time Collected	Grab	Composite	Soil	Water	Other			Total # of Containers	Sulfate Nitrate	Diss. Inorganic Nitrogen	Total Inorganic Nitrogen	Merch. (VH)
L-205, 120909			12/9/09	1130	X			X		6	X	X	X	X		Diss. Metals Bottles are unfiltered & un-preserved
L-185, 120909			12/9/09	1040	X			X		6	X	X	X	X		
L-215, 120909			12/9/09	0940	X			X		6	X	X	X	X		
L-935, 120909			12/9/09	1230	X			X		6	X	X	X	X		
TRIP Blank			12/9/09	TEST	-			X		2				X		
 (The following section is crossed out with a large diagonal line) 																
7 Turnaround Time Requested (TAT) (please circle): <u>Normal</u> Rush (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please circle): Phone Fax E-mail Phone #: _____ Fax #: _____ E-mail address: <u>mmitchell@trihydro.com</u>										Relinquished by: <u>[Signature]</u> Date: <u>12/30/09</u> Time: <u>10:10</u>		Received by: _____ Date: _____ Time: _____				
8 Data Package Options (please circle if required) Type I (validation/NJ Reg) TX TRRP-13 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Type II (Tier II) MA MCP CT RCP <input type="checkbox"/> Yes <input type="checkbox"/> No Type III (Reduced NJ) Site-specific QC (MS/MSD/Dup)? Yes <input checked="" type="checkbox"/> No Type IV (CLP SOW) (If yes, indicate QC sample and submit triplicate volume.) Type VI (Raw Data Only) Internal COC Required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>										Relinquished by: <u>[Signature]</u> Date: <u>12/9/09</u> Time: <u>1400</u>		Received by: _____ Date: _____ Time: _____				
										Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____				
										Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____				
										Relinquished by: _____ Date: _____ Time: _____		Received by: <u>[Signature]</u> Date: <u>12/10/09</u> Time: <u>0935</u>				

Environmental Sample Administration Receipt Documentation Log

Client/Project: Chevron (OH)

Shipping Container Sealed: YES NO

Date of Receipt: 12/10/09

Custody Seal Present *: YES NO

Time of Receipt: 0935

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50-1

Package: Chilled Not Chilled

Unpacker Emp. No.: 1607

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	0429975	1.6°C	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody. 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody

Name	Date	Time	Reason for Transfer
Mary Beth Reed	12/10/09	1035	Unpacking
DA Westlund	12/10/09	1040	Place in Storage or <u>Entry</u>
			Entry
			Entry

Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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